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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,448	09/30/2003	Kevin Scott Beyer	SVL920030088US1	2447
45727 7590 02/07/2007 IP AUTHORITY, LLC RAMRAJ SOUNDARARAJAN 9435 LORTON MARKET STREET #801 LORTON, VA 22079			EXAMINER MYINT, DENNIS Y	
			ART UNIT 2162	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 02/07/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/605,448	BEYER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dennis Myint	2162	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This communication is responsive to Applicant's Amendment, filed on 13 December 2006.
2. Claims 1-22 are pending in this application. In the Amendment filed on 13 December 2006, claims 1-8 and 17-22 were amended. Claims 1, 9 and 17 are independent claims. This office action is made final.
3. Rejection of claims 17-22 under 35 U.S.C. 112 is hereby withdrawn in light of the amendments made to claim 17.

### ***Response to Arguments***

4. The applicant's arguments filed on 13 December 2006 have been fully considered but are not persuasive.

Referring to claims 1-22, Applicant argued that *However, it should be noted that O'Neal structure restrictive in the fact that only odd numbers are used as position numbers for nodes* (Applicant's argument, Page 10 Lines 17-19). In response, it is pointed out that the use of odd, even, or consecutive integers of O'Neal reference has nothing to with any limitations of the claims of the instant application because none of the claims of the instant application recites odd numbers or even number. Therefore, said argument is inappropriate and invalid.

Referring to claim 1, Applicant argued that *O'Neal et al., either in the Examiner's citation or in the reference's entirety, fails to teach identifying a left node ID value*

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*closest to the left of said insertion point or a closest right node ID value closest to the right of said insertion point and calculating a new ID value based upon identified node ID value* (Applicant's argument, Page 13 Lines 8-12). In response, it is pointed that O'Neal teaches said limitations as follows:

“identifying one of, or a combination of the following: a left node ID value closest to the left of said insertion point or a closest right node ID value closest to the right of said insertion point” (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers “1.2.1” and “1.2.3”, respectively, now becoming sibling nodes to the right of 504 and to the left of 506* ); Applicant is pointed out to refer to Figure 5 and 6 of O'Neal reference and note that an insertion point (606 of Figure 6, i.e., node ID 1.2.2) is identified. Its ID value is closest to the left of said insertion point (606 of Figure 6), i.e., ID value 1.2.2 is closes to the ID value of the node to left, which is 1.2.1. In the same vein, ID value of the insertion point (606 of Figure 6) has an ID value 1.2.2, which is the closest to the ID value of the node to the right, which is 1.2.3; and

“calculating a new ID value based upon node ID value(s) identified in (b), said calculated value greater than ID values of nodes to the left of said insertion point and less than ID values of nodes to the right of said insertion point” (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers “1.2.1” and “1.2.3”, respectively, now becoming sibling nodes to the right of 504 and to the left of 506*); Note that **based on** the ID values of the nodes to left and right, that is, ID values of 1.2.1 and 1.2.3, an new node with ID value of 1.2.2 is inserted (Figure 6 and Column 8 Lines 58-62).

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Referring to claim 17, Applicant argued that *it should be noted that claim 17 specifically defines the calculation of a new ID value based on:*" (Applicant's argument, Page 13 Last Paragraph). However, instant claim 17 recites as "(c) *calculating a new ID via one of the follows way*". As such, the claim language is limited to only one of those recited ways. Not all. As such, Applicant's argument regarding claim 17 is not appropriate.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Neil et al., (hereinafter "O'Neil") (U.S. Patent Number 6889226).

As per claim 1, O'Neil is directed to a robust computer-based method for updating a computer-stored hierarchical structure of nodes via a node identification technique, said update retaining properties and parent/child relationships of said hierarchical structure without renumbering existing node ID values associated with said hierarchical structure (Abstract, i.e., *The hierarchically organized data is represented as*

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*a tree, and each node in the tree is assigned a position identifier that represents both depth level of the node within the hierarchy, and its ancestor/descendant relationship to other nodes) and teaches the limitations:*

(a) "receiving an instruction to insert a new node at an insertion point in said computer-stored hierarchical structure" (Figure 6; Figure 3; Figure 5: Column 8 Lines 36-40, i.e., *Figure 5 and 6 show how data can be inserted (or careted) into a hierarchical data structure, while still maintaining the valuable properties of the position identifier numbering scheme described above* );

(b) "identifying one of, or a combination of the following: a left node ID value closest to the left of said insertion point or a closest right node ID value closest to the right of said insertion point" (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers "1.2.1" and "1.2.3", respectively, now becoming sibling nodes to the right of 504 and to the left of 506* );

(c) "calculating a new ID value based upon node ID value(s) identified in (b), said calculated value greater than ID values of nodes to the left of said insertion point and less than ID values of nodes to the right of said insertion point" (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers "1.2.1" and "1.2.3", respectively, now becoming sibling nodes to the right of 504 and to the left of 506*); and

(d) "updating said computer-stored hierarchical structure by inserting said new node and associating said inserted node with said calculated ID value, wherein order,



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node ID values, and relationships between parent, child, and siblings in said hierarchical structure of nodes remain unchanged with said insertion of new node" (Column 8 Lines 36-40, i.e., *Figure 5 and 6 show how data can be inserted (or careted) into a hierarchical data structure, while still maintaining the valuable properties of the position identifier numbering scheme described above*).

As per claim 2, O'Neil teaches the limitation:

"wherein said new ID value is calculated via any of the following steps: concatenating said left node ID value with one or more high key values and a positive value, decreasing last digit of said right node ID value, increasing last digit of left node ID value, decreasing last digit of said right node ID value and concatenating a positive value, or concatenating said left node ID value with one or more zeros and a positive value" (Column 9 Lines 10-13, i.e., *If node 610 later needs to be inserted in between nodes 608 and 504, the new node 610 will be numbered "1.0.1 (i.e., "0" is the even number between 1 and -1).*)

As per claim 3, O'Neil teaches the limitation:

"wherein a digit in said calculated ID value has a negative value" (Column 9 Lines 7-10, i.e., *although insertions to the left of a group of siblings may require a negative odd number – e.g., node 608, which is inserted to the left of the node having position number "1.1", has position number "1.-1" ).*

As per claim 4, O'Neil teaches the limitation:

"wherein counts between nodes in said hierarchical structure of nodes have a gap and said high key value equal to said gap value" (Column 8 Lines 60-65, i.e., *In other words, even number component values are skipped in the initial numbering of the nodes, and are reserved for insertions*). In the method of O'Neil, even numbers are left as gaps to be later used as high keys.

As per claim 5, O'Neil teaches the limitation:

"wherein said ID values are encoded and are byte comparable" (Column 10 Lines 30-50, i.e., *The following table shows an exemplary set of Li values, and the prefix-property-obedient bit sequences that represent them*).

As per claim 6, O'Neil teaches the limitation:

"wherein said nodes are associated with a mark-up language based document" (Column 2 Lines 53-62, i.e., *Extensible Markup Language (XML)*; Column 5 Line 38 through Column 6 Line 28, i.e., *Hierarchy structure of data 200*, and *By convention in XML, levels of organization are delimited by*).

As per claim 7, O'Neil teaches the limitation:

"wherein said mark-up based language is XML" (Column 2 Lines 53-62, i.e., *Extensible Markup Language (XML)*).



As per claim 8, O'Neil teaches the limitation:

"wherein said method is implemented in conjunction with a relational database" (Column 2 Lines 55-60, i.e., *The present invention provides a technique for storing such hierarchical data in a non-hierarchical data structure such as relation, which still maintaining information about the hierarchical structure of the data*).

Claim 9 is rejected on the same basis of claim 1.

Claim 10 is rejected on the same basis of claim 2.

Claim 11 is rejected on the same basis of claim 5.

Claim 12 is rejected on the same basis of claim 6.

Claim 13 is rejected on the same basis of claim 7.

Claim 14 is rejected on the same basis of claim 8.

Claim 15 is rejected on the same basis of claim 4.

Claim 16 is rejected on the same basis of claim 3.

Referring to claim 17, O'Neal teaches the limitations:

(a) "receiving an instruction to insert a new node at an insertion point in said computer-stored hierarchical structure" (Figure 6; Figure 3; Figure 5: Column 8 Lines 36-40, i.e., *Figure 5 and 6 show how data can be inserted (or careted) into a hierarchical data structure, while still maintaining the valuable properties of the position identifier numbering scheme described above*);

(b) "identifying one of, or a combination of the following: a left node ID value closest to the left of said insertion point or a closest right node ID value closest to the right of said insertion point" (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers "1.2.1" and "1.2.3", respectively, now becoming sibling nodes to the right of 504 and to the left of 506*);

(c) calculating a new ID value via one of the follows ways:

assigning a new ID value based on a level associated with said insertion point (Column 8 Lines 58-62, i.e., *In this example, nodes 602 and 604 are assigned position numbers "1.2.1" and "1.2.3", respectively, now becoming sibling nodes to the right of 504 and to the left of 506*);

,said calculated value greater than ID values of nodes to the left of said insertion point and less than ID values of nodes to the right of said insertion point" (Column 9 Lines 10-13, i.e., *If node 610 later needs to be inserted in between nodes 608 and 504, the new node 610 will be numbered "1.0.1 (i.e., "0" is the even number between 1 and -1*; Column 8 Lines 58-62, i.e., *In this*

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*example, nodes 602 and 604 are assigned position numbers "1.2.1" and "1.2.3", respectively, now becoming sibling nodes to the right of 504 and to the left of 506); and*

(d) "updating said computer-stored hierarchical structure by inserting said new node and associating said inserted node with said calculated ID value, wherein order, node ID values, and relationships between parent, child, and siblings in said hierarchical structure of nodes remain unchanged with said insertion of new node" (Column 8 Lines 36-40, i.e., *Figure 5 and 6 show how data can be inserted (or careted) into a hierarchical data structure, while still maintaining the valuable properties of the position identifier numbering scheme described above*).

Claim 18 is rejected no the same basis as claim 3.

Claim 19 is rejected no the same basis as claim 5.

Claim 20 is rejected no the same basis as claim 6.

Claim 21 is rejected no the same basis as claim 7.

Claim 22 is rejected no the same basis as claim 8.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

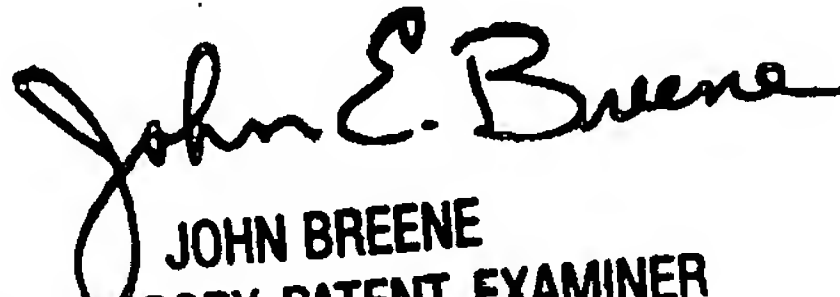
**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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